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KLIPSUN

January 1983



Faculty Forecast the Future

Blackberry Press

Lookout Summer

COMMENTARY

by Jeff Kramer

Anyone who faithfully monitored the progress of Western's search for a new president could not have escaped the irony. Western, traditionally regarded as perhaps the most politically active university in Washington, seemed barely able to muster a collective yawn when it came time to find a successor to Paul J. Olscamp.

The apathy was especially out of character if one considers Western's mood prior to Olscamp's departure for Bowling Green State University last summer. Early in the 1981-82 school year, students massed in Red Square at an administration-backed rally to protest cuts in higher education funding. In May, campus elections, sparked by several controversial referenda, drew an unprecedented number of students to the polls. Throughout the entire year, student leaders here fought a persistent but lonely battle to turn the nascent Washington Student Lobby into a viable, statewide political lever.

But aside from a few early flurries of controversy, interest in the presidential search fell short of Western standards.

The five candidate forums this fall were sparsely attended, prompting Faculty Senate President William "Skip" Sailors to make note of "an embarrassingly small number of faculty and staff who paid any attention to the candidates."

Clearly, this was not the same university that had become irate two years ago when Olscamp spent \$23,000 in student monies to have the kitchen remodeled in the presidential mansion.

Enter G. Robert Ross, 54, the Texas-born product of an eight-month presidential search. Appearing last Nov. 30 in an Old Main conference room, Ross was introduced to an enthusiastic crowd as the Board of Trustees' unanimous choice to succeed Olscamp.

The ovation he received from the many administrators, faculty and staff members, students and alumni on hand, bordered on tumultuous. Anyone who thought the outpouring of affection directed at Ross was merely a gesture of politeness probably didn't attend the press conference personally.

For even though Ross didn't reveal any specific plans, something very tangible was made evident that morning. Ross, or more precisely, the leadership he has to offer, is sorely needed here.

Few things about Western's future are certain at this point, but most observers agree that the university is at a junction. Western's struggle to forge an identity in a financially hostile environment has been made doubly difficult by the temporary, but conspicuous absence of a permanent fixture at the top. For many, just the simple fact that a president has been named, signals an end to the paralysis and uncertainty that has plagued dozens of programs here.

Initially, the former chancellor of the University of Arkansas at Little Rock may seem an unlikely gladiator in the jostle for state tax dollars. Though of impressive physical stature, Ross speaks in a quiet southern drawl, is quick to extend his hand and almost comes across as too nice of a guy to be effective in the legislative pit.

Of course, his resume shows him in a different light—as a shrewd and experienced administrator recognized for his expertise in the relationship between higher education and state law-making bodies.

Considering his track record in this crucial area, observers may be interested to find out that Ross is unabashedly optimistic about the economic horizon and about the future of higher education, Western included.

With his career as Western's tenth president scheduled to begin this month, and yet another session of the state Legislature looming ahead, it goes without saying that more than a few people are hoping the amiable administrator from Arkansas is right. **K**

KLIPSUN MAGAZINE

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Cover: Christopher Aslett, 6 mos., shows how easily kids can adapt to future technology. (see page 4) Photo illustration by Casey Madison. **Back cover:** Interior stairwell, South Academic Building by Casey Madison.

K

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Klipsun is a Lummi Indian word meaning "beautiful sunset."



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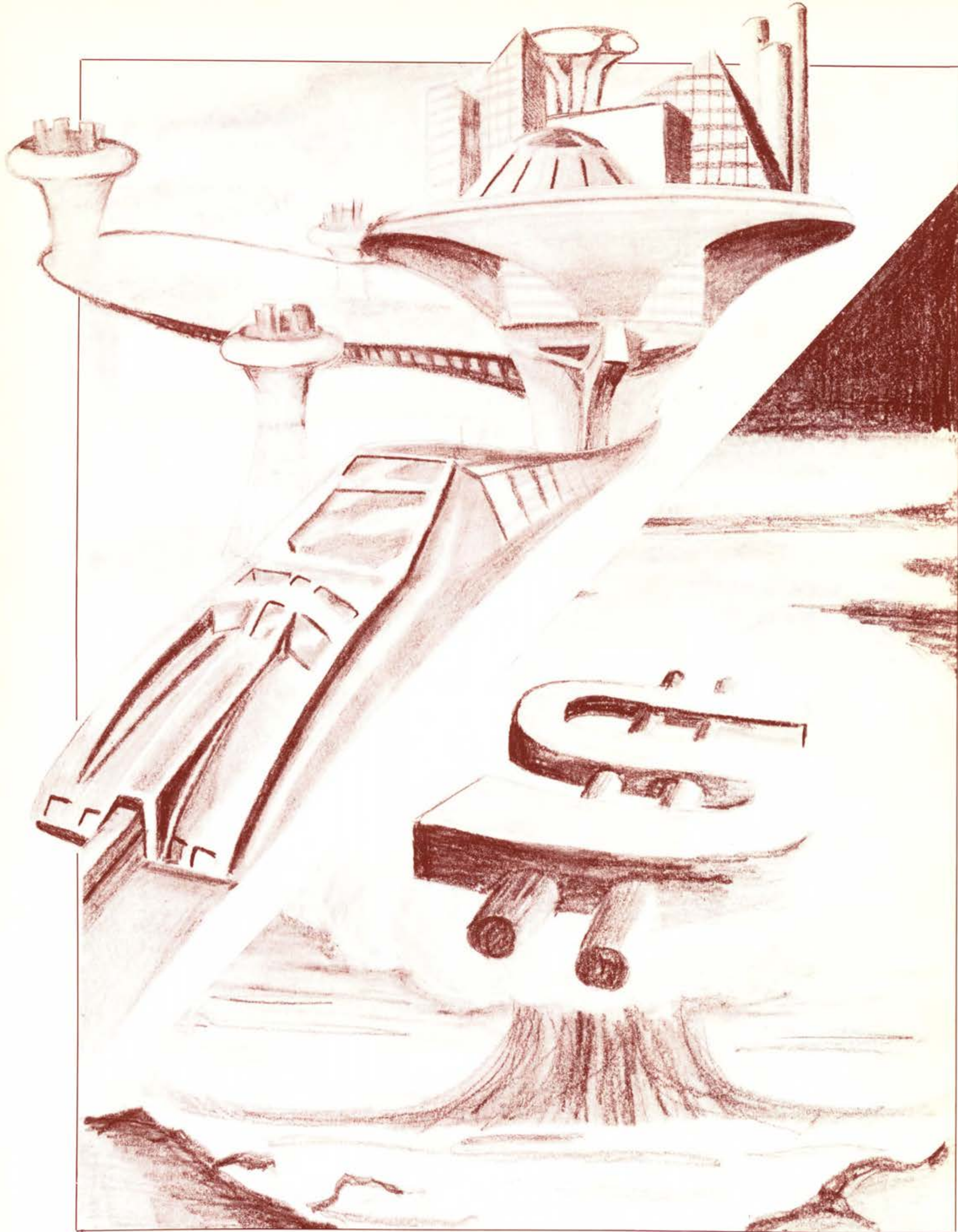


ILLUSTRATION BY SHEILA POLLOCK

"We still feel we have the right to be richer . . . we still feel we have the right to a house on a third of an acre and a boat and a trailer. We also feel that each year, we ought to have a bigger salary and we feel that our children ought to have it better off than ourselves. All these expectations are unrealistic."

— David Clarke, faculty member, Western's political science department and Huxley College

"I'd have no objection to being 20 today. To go through the coming investment boom would be quite exciting."

— Howard Mitchell, faculty member, Western's economics department

Life in the Year 2000

Six Western faculty members forecast the future

by Jeff Kramer

Forecasting the future is hardly an exact science. Futurists can ponder current trends or search for answers in historical cycles, but even predictions based on the most educated of guesses are, after all, only guesses.

Given the futility of predicting tomorrow, our record of planning for it is understandably suspect. Using the atomic bomb as an example, Laurence Miller of Western's psychology department skeptically noted, "I don't think people have been able to realize, understand or predict the significance of discoveries in terms of their impact on the future."

But with the millennium fast approaching, it becomes especially intriguing to pause from our daily ministrations and consider life in the year 2000. For even though individual outlooks range from extreme pessimism to heady optimism, consensus on at least one aspect of the future can be reached. All of us, we must agree, have a very big stake in it.

Between the years 1985 and 2000 it is prophesied, a capital investment surge will sweep across the nation, laying the foundation for a "high standard of living." American industries, unprotected and unencumbered by government reg-

ulation will invest heavily. Benefiting from the latest technological innovations, these corporations will leave their international rivals far behind. Inflation and interest rates will be low. Unemployment will stabilize at a relatively lofty 6 or 7 percent but incomes will be higher. Once the period of capital investment ends, the production of consumer goods will increase and prosperity will blanket the land.

This bullishness is the essence of an economic forecast by Howard Mitchell of Western's economics department. "I don't believe there will be a scarcity of resources in the future," Mitchell said

frankly. "Science and technology will find ways to replace or supplement existing reserves."

An Ethic of Frugality

Unfortunately for recession-bound Americans, Mitchell's predictions conflict with other intellectuals who are more inclined to bet on reduced growth and productivity, massive resource depletion or a thermonuclear holocaust.

With the global population doubling at a rate of once every 45 years, people like Western political science and Huxley faculty member David Clarke are expecting that limitations on everything from topsoil to living space will lead to a lowered standard of living.

"We've reached the end of our rope now," Clarke said. "You find everyone from Reagan on down talking about economic health and by that they mean economic growth. But in that way lies the rapid destruction of the world."

Clarke called for organizing the world's work within a "limited economic sphere," a prescription he said will mean fewer available products, less cash, more recycling, miniaturization and living by an "ethic of frugality."

He also said the demise of the suburbs is a likelihood because they sprawl over badly needed farmlands and necessitate wasteful commuting.

In his ideal vision, Clarke said he sees "a country of carefully thought out, beautiful and compactly designed towns connected by high-speed railways."

David Ziegler, also of Western's political science department, agreed with

"...the psychic payoff of being alive is not tied to material consumption."

—Clarke

forecasts of declining material wealth, although for somewhat different reasons. Ziegler expects a trend to continue in which the nation-states of the world withdraw into their respective realms instead of entering into a cooperative spirit of transnationalism. This, along with continued government restrictions on multi-nationals, will bring a significant lowering of world-wide living standards, contended Ziegler.

Should this happen, many believe the countries that have developed Confucianistic societies, like Japan, will fare the best because their discipline, order and general "governability will make it easier for them to adapt to changing conditions."

As with Clarke, who asserts the need to discover that the "psychic payoff of

being alive is not tied to material consumption," Ziegler doesn't see the future as necessarily gloomy. "People might spend more time with each other," he reasoned, noting that a decreasing emphasis on products may precipitate a rediscovery of traditional rituals and holidays.

In fact, people do seem to be turning back toward more customary values, perhaps in rebellion against the cult of science and technology. To wit, marriage is becoming an "in" institution once again, as is religion.

Adapting to the Computer Age

All the talk about a lower standard of living, however, should not be over-exaggerated. Even if the pace of consumption does wane some in coming decades, most middle class Americans probably won't be designing their homes to resemble Fairhaven's Outback. Chances are, most of us still will have access to time and labor-saving innovations, although they will have to be energy efficient. Growth in the computer industry, for example, can be counted on to continue, especially as hardware becomes more affordable for home use.

James Johnson, a visiting faculty member in Western's math/computer science department, says computers will continue to evolve into "intelligent" decision-making machines, and that jobs, perhaps as many as half of them by the year 2000, will be directly related to word processing. Referring to the recent boom in video games and home computers, Johnson predicted, "kids growing up will make the adjustment (to the computer age) naturally."

But the transition will undoubtedly be hard on some. Miller postulated "severe dislocation" for individuals who somehow get left behind in the rush toward new technologies. Johnson said people devoid of any knowledge of computers in the future will be the equivalent of modern-day "illiterates." The very real possibility exists, for instance, that people laid off during the current recession will be unable to find work at a later date because the technology they are accustomed to will have grown obsolete.

Western in the Year 2000

Meanwhile, others worry about education being adversely affected by the pervasive nature of modern innovations. The trend, at least for now, is away from the liberal arts. In ever-increasing numbers, students are gravitating toward courses that offer the most hope for immediate, gainful employment. But Paul Woodring, a

former acting-president at Western and education professor emeritus is confident of a return in the popularity of the liberal arts curriculum once people realize that specialized technological skills, though helpful in obtaining initial employment, inhibit upward mobility in the job market. "We will always need people who are broadly and liberally educated for positions of leadership," he maintained.

As for the future of Western, Woodring, a member of the faculty since 1939 who has seen the campus expand from a college of four buildings to a university of 10,000 students, is doubtful the explosive growth of the past will be matched.

"Chances are, we're not going to grow much more. We may actually get smaller," he said, guessing that in the year 2000, Western will look very much as it does now. In addition, Woodring said he expects future students will have to pay an increasing percentage of their tuition costs while the state continues to

All this talk about the year 2000, however, amounts only to moot prognosis if any number of imminent perils befall man before then.

experience financial difficulties. Disillusionment with the relative value of a diploma, he said, may spawn attempts to limit university enrollments, and Woodring believes Western might take steps in the future to tighten its admittance standards — a move that could enhance the school's prestige.

All this talk about the year 2000, however, amounts only to moot prognosis if any number of imminent perils befall man before then.

Inarguably the most pressing questions about the future concerns our ability to extinguish it through war. Perhaps due to our basic "denial of death" instincts, few will outwardly predict an all-out nuclear confrontation by the end of this century.

Nonetheless, discussion of "limited" nuclear war is commonplace and the potential for even the smallest of nations to resort to atomic weapons is real.

And so it becomes apparent that the students of today, more conservative than their counterparts of the 1960s, are entering into a future fraught with uncertainty and danger. To them, Woodring has a simple but telling message: "The world still needs reformers."

[K]

'GOTO JUMP' AND 'HELP'

Conquering the Computer Tutor

by Barbara Scabarozi



Since I'd been in Western's computer center once before, I have one advantage — I remember how to turn on a terminal.

I pick a cubicle in a corner so I can learn the Statistical Package for the Social Sciences (SPSS) system unnoticed. It's one o'clock and the booth has a sign "Reserved at 2 p.m." That will give me only an hour to learn how to tutor myself.

My fingers feel under the terminal for the power switch that I know was on the unit I used last quarter. But nothing happens — no switch. Must be a button on the keyboard ... no, not an obvious on-off key. Maybe if I press some keys that'll kick it in gear.

I strike SPSS. No response. SPSS. Still nothing. Well, if I'm going to sit here I might as well turn on some light.

I flick on the lamp and the terminal lights up, beaming the words, "You typed SPSS SPSS."

Next, I learn two master phrases, "GOTO JUMP" for a list of lessons available in the tutorial program, and my favorite, "HELP."

The terminal eases me through the differences between a program file and data file, then shows how to create a data file. There's something mystifying about creation, and forming a data file is no exception. But so far, it's easy to see the information and understand it. My goal is to program a readership survey of a local newspaper for a journalism class. On SPSS, questions are variables, persons are cases and responses are values.

On to TS2. I wonder what TS stands for? My first reaction is "tough shit."

The computer tells me it is easier to understand codes if we use an example. I'm beginning to resent its all-knowing attitude.

It's almost two o'clock and I'm only on TS3. I ask a consultant how to get out of this program and move it to another terminal since this one is reserved. He snatches the reserved card off the clip and says, "It was probably

left over from yesterday. No one took the card down."

Back to my patient teacher-terminal. It's getting sophisticated now, with letters, numbers and decimal points all performing some worthwhile function that's elusive to me.

Naming the variables ... that's the questions, and the value, that's the response, seems a fun thing to do. I have to keep the name to eight characters or less, so questions like, "Which parts of the paper do you read?" can be coded as OBITS, BIRTHS and ALLOFIT. Since I have two separate groups of opinions, those of subscribers and newsstand sales, I might also code them the BREADERS for "bought readers" and DREADERS for "delivered readers."

The terminal next to mine starts clattering and spitting out reams of paper while a student watches. I wish I were done and could go home, but with the competition for terminal time so intense, I don't want to quit until I'm done.

The statistics of TS8 are getting really ethereal. Pearson CORR, PARTIAL CORR, COMPUTE, IF and ASSIGN MISSING. That last one is what I'll be if I don't finish soon.

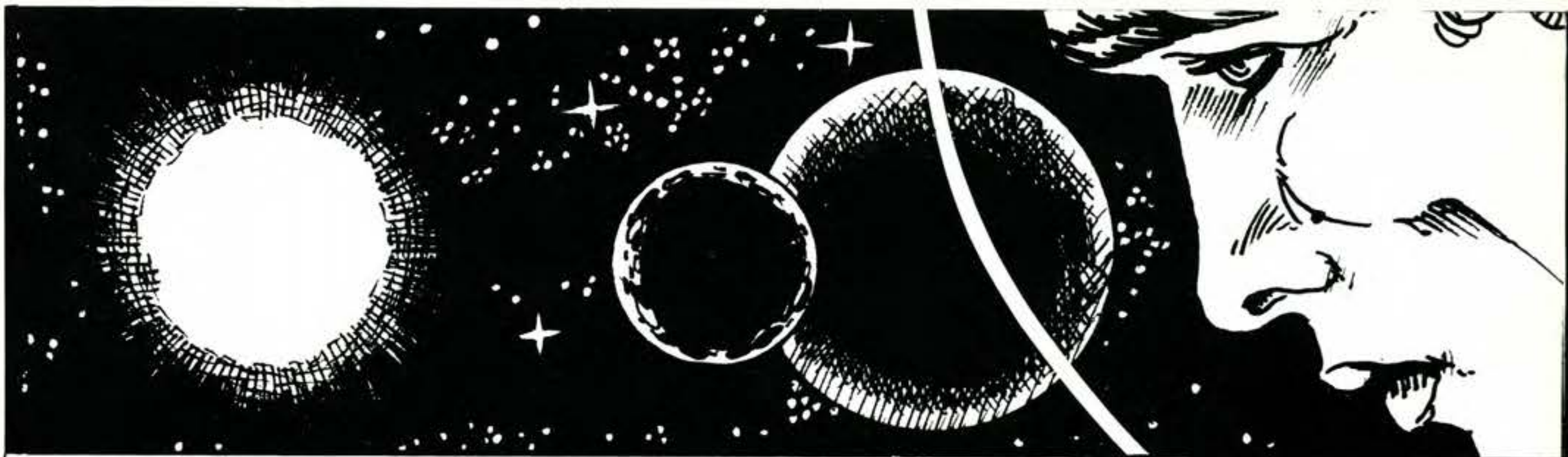
The terminal tells me there are nine lessons, TS1 to TS9, in SPSS. I'll give it another 10 minutes. It's only been three hours.

TS9 flashes required and optional data definitions at me. My eyes blur and it's difficult to keep them focused. The screen lettering strobes at my retinas.

Finally, the last question of the last lesson appears and the terminal instructs me to start over or sign off. I choose to end it all, and type "BYE" to my tutor.

As I leave the thoroughly warmed chair, the information that has bombarded my brain is already getting fuzzy. Was a question a case or a variable?"

But I do remember how to turn on a terminal. **K**



Fantasies Flourish in Student Club

by Jackleen Asmussen

Science fiction stretches the word fiction to its limits with fantastic tales or prophecies of doom. For those who thrive on it, science fiction is more than literary entertainment. It is a staple, a frame of reference. Serious-minded science fiction fans gather at Western's Science Fiction and Fantasy Club (SFFC). Science fiction is so involving, SFFC President Al Kacaroski said it could be called a subculture.

"We throw away any limits that the world forces on us," he said. "Science fiction is an intellectual escape."

"When you're in the club, you assume a different personality ... You stick around long enough and you pick up the biases of the club ... We don't mix so well with what we call the 'mundane world.' When we're in the club atmosphere, it's like a separate world," Kacaroski said.

Shirin Salzer, SFFC member, said, "People who enjoy science fiction are sometimes laughed at for having strange ideas. When you get a group of people together who have strange ideas, they form a strong coalition."

On a recent visit to Bellingham, Jay Parks, former SFFC president, said science fiction people are not always well accepted because of their ideas.

"A lot of science fiction ideas are kind of threatening. Some people don't care about the future. Other people have enough problems dealing with today's world."

"I like to think of science fiction as a

kind of anti-conservatism. When a giant wave of change comes along, some people cower in front of it. Others get smashed by it. Science fiction people surf on the wave with an attitude of 'let's try it this way,'" Parks said.

The most common majors in the club are physics, mathematics and computer science. The quantum leap from fantasy to a pure science is not unusual, said Parks, who graduated in June with a double degree in astronomy and physics, and minors in math and computer science.

He began a job in November as a science programmer at Arizona's Kitt Peak, the largest observatory in the world.

"There are all sorts of different subfields in science fiction, from the hyperspatial, faster-than-light travel to the elves and dragons. Most people are (involved in) a little of both. Science fiction gives you nice methods of imagination — how things can be made better through technology," Parks said.

Salzer said there are not many

'I like to think of science fiction as a kind of anti-conservatism. When a giant wave of change comes along, some people cower in front of it. Others get smashed by it. Science fiction people surf on the wave ...'

women in the club, (four out of 60 members) because women traditionally have not been involved with science. That is changing, she said, as well as the orientation of science fiction literature, which traditionally portrayed men as the central power figures.

Margo Cook, secretary of SFFC, said a lot of emotional dependence exists in the club. SFFC bonds extend to established houses off campus with such names as Altered Estates and Mini-Mythos.

The range of interests and activities in SFFC is virtually unlimited. At least 80 percent of the club is involved with some kind of gaming, such as Dungeons and Dragons or fantasy role playing, Kacaroski said.

Most members read science fiction and others are "heavily into films," he said.

Cook said her forte is puns. "We have pun wars. We get on one subject and pun it to death," she said. SFFC also publishes an annual literary magazine, "Ad Infinitum" with fantasy tales and art produced by club members. And for the second year, SFFC will sponsor Viking Con, a convention for science fiction fans.

The predominant theme in SFFC is a fertile mind, Kacaroski said. "Everyone in the club is sometimes strange. We love it in a way, to choose when we want to be strange. Science fiction has no limits. We're just simply talking about a world without parameters." **K**



ILLUSTRATION BY TIM HOEHNER



Silent Summer

Isolation as a fire lookout

Story and photos by Donna Rieper

The faded red, six passenger forestry truck crawled up Deming Mountain. Seemingly without springs, it jounced Don, the driver, and me, the passenger, like a bad carnival ride as we drove up the dirt fire road.

Don wore woodsman's clothes — a dark green shirt, black can't-bust-'em jeans and high-heeled logging boots. With his horn-rim glasses and short, smoothed-back hair, he seemed a dependable, mild-mannered person. Henceforth, I was to think of him as my keeper.

I was equipped with clothing, a week's supply of food, a transistor radio and a stack of books. In the back, eight five-gallon plastic jeep cans of water sloshed in rhythm with the truck.

On that slow trip up, I watched the trees, the forest wet and

still, and a song kept plucking at my mind, "*Sometimes, in the middle of the night, when you're all alone in the darkness ...*"

Higher still, we bumped through a gully where the road had washed down to the granite. "*Nobody else around you for miles and miles ...*"

We rounded the last sharp corner and the fire lookout tower stood in a clearing, gray wooden stilts surmounted by a squat house. Clouds obscured the valley below. "*Lonesome darkness, when everything is still ...*"

The truck jerked to a stop. We packed supplies up the three airy flights of 20 steps each. Don unlocked the trap door in the catwalk overhead and, out of breath, we clambered up the last steep flight.

A damp, closed-in smell wafted out the door when we entered the 12 by 12 foot glassed-in house. A big radio sat on a wooden table beside the door, low cupboards flanked a two-burner propane stove across the room.

Standing prominently on a pedestal in the center of the room was the fire finder — a circular map and scale of the surrounding country with a rotating sighting device. To spot a fire, the lookout peeped through a hole in a brass plate and lined up a horse-hair sight with the smoke.

Don went down to hoist the water cans up by the rope pulley mounted outside. Reaching over the rail to grab the first, I noticed how height made the truck appear flat as a beetle and I tightened my grip on the rail.

After more general instructions and advice, Don left. A silence deep and thick as bog peat snuffed out the sound of the retreating truck. The uncertain twilight of early June glimmered outside and in as I took stock of what was to be home for the next three months.

Refrigeration — there was none. Scratchy wool army blankets provided heat. Two kerosene Alladin lamps would give soft, but bright artificial light if the wicks were trimmed exactly right. Two wooden stools fitted with old glass insulators (one for the seat, one for the feet) were to give added safety in thunder storms, though Don assured me the tower was well protected by lightning rods.

I unrolled the mattress for the built-in wooden bunk. As expected, it was as hard and lumpy as yesterday's cold biscuit. A little gray house on the ground, complete with half-moon window in the door, provided the most basic, trouble-free bathroom facilities.

After closing the trap door in the catwalk, I crawled into bed and pulled the coarse sheet up to my chin. My ears strained in the silence, hearing only the slight creaking of the tower. Twilight deepened to black against the windows. And thus began the lookout summer.

I was a sophomore at Western looking for an alternative sort of summer job when I found out the Department of Natural Resources (DNR) in Deming had an opening for a lookout. It paid \$12.48 a day, with two days off a month, weather permitting.

Once an extensive system of lookouts protected Washington's forests. Now, especially in western Washington, where high mountains limit a lookout's view, much of the surveillance is done by airplanes. I was one of the last lookouts on Deming Mountain. I was there more because it was the most northern weather station in Washington than for strategic fire defense.

To pinpoint a fire's location takes two lookouts in opposing locations. Deming Lookout had no other tower to cross sights with, though a crew boss on a high ridge could use a compass to transit a sighting if he could see smoke.

Making the weather report was the first and practically only task of the day. The louvered weather house, a few yards from the tower, had high-low thermometers. Another ther-

mometer was fitted with a little sock kept wet for figuring out the dew point, the temperature at which the air becomes saturated, useful in determining fire danger.

As the mist rose in the morning, I scanned the blue-green hill with powerful field glasses such as the ones General Patton might have used. To the east, Mount Baker presided over steep hillsides crisscrossed with logging roads, their bare clearcuts scarred in star shapes at the logging landings. To the north was forest, to the south the Van Zandt Dike and valley of the Middle Fork of the Nooksack River. Far to the west, the flats of the county stretched to Bellingham and the bay.

The radio was a chief form of diversion. I became friends with the two lookouts I could hear best, Little Summit on Orcas Island and Grass Mountain somewhere to the south. At night, when we figured the bosses weren't listening in too closely, we would indulge in a little chat about the day's happenings. These sometimes included a crew finding a patch of marijuana, or hemp, as they called it, growing on some



Mt. Baker viewed through tower cross-members.

state land. A helicopter landing pad and a tree farm had both come into use as gardens. These finds were turned over to the sheriff.

Another diversion was the weekly visit of Red and his crew to the tower, which was part of his patrol area. Short, with small, light eyes in a bony face and reddish-blond hair, he was an area native. He always wore snug white T-shirts and black jeans with suspenders and logging boots. The requisite can of chewing tobacco showed in his pocket. Red appeared the type of guy who would have hound dogs for bear hunting. He did.

On one of his first visits, he gestured toward a wire and wood framework extending out beside the trap door and asked, "Do you know why that barbed wire is there?"

"No. Why?"

"A few years back, a young guy who'd been a wrestler came up one night, trying to get at the gal here. She had the trap

door shut, but he just climbed upside down around it and pulled himself up over the side."

"Really? What did she do?"

"Oh, she clobbered him good with a frying pan and radioed the boss. After that, they put in the barbed wire so no one could climb around now. Yeah, I reckon if you want visitors, you'll have to open the trap door." He grinned.

I thought of that story many times that summer. Don warned me to shut the trap door if I went for a walk in the evenings to keep out such four-legged visitors as porcupines. When I returned and was directly under the heavy trap door, with my face close to the thick boards above me and the steep stair falling away behind, my stomach would do a gentle flutter-kick until I had the door safely open.

Standing on the top stairs, I would study the overhang from beneath the walkway, imagine hanging out over that dizzying space and shudder.



The trap door had its own role to play that summer. At first, I always closed it before going to bed. By mid-July, with nobody else around for miles, it seemed silly.

The safest surroundings are not necessarily the most satisfying. Humans seem always to seek that little stiletto of danger.

"Lonesome darkness, when everything is still ... "

One night I woke abruptly. The wind didn't seem to be blowing, but the tower was shaking.

"You can hear him, out in the distance ... "

Shaking as if something big was climbing, step-by-slow-step up the stairs.

"Out in the darkness ... "

The trap door was open. I thought wildly of my best weapon, a cast-iron skillet on the stove across the room — too far away.

"You can hear him calling ... "

My throat closed, I couldn't swallow. I tried to breathe as

little as possible.

"You can hear him cry ... "

The thing below became something huge, monstrous, not human.

"You can hear him talking to you ... "

I lay there in a state of suspended animation, my eyes squinched shut, blood thrumming in my ears.

"You can hear him calling to you ... "

The sun woke me. I was stiff, and the ashy taste of fear still was in my mouth. I could not believe nothing had happened.

Always having considered myself eminently practical and not given to flights of fancy, I was at a loss to explain the vivid hallucination, if that is what it was.

Other manifestations of a subtle psychological shift occurred. A person's territory expands to fill the space available. As the heat of summer set in, and the drinking water grew



green strands of algae by week's end, mine had expanded to include all I could see from my glass aerie.

I resented the spotter planes flying through, sure that they would find a fire in my area before I did. But, other than one dump fire and a stump burning after a lightning strike, no fires occurred in Deming District that summer.

Characters in the books I read became more real than the inconsequential intrusion of live people. I cherished my aloneness. Friends were welcomed, but strangers approaching the tower were met with silent imprecations, "Don't come up, go away."

The end of summer and a return to civilization came. I left without looking back. Still, every once in a while, I like to think about that summer.

In the middle of the night

When you're all alone

*In the darkness ... **

**song, "Brownsville/ Mockingbird" by Terry Garthwaite [K]*

Research Reports

This is the second of a series sampling Western faculty research projects. This issue reports on a biologist gathering information in the Arctic, an \$80,000 "Energy Adventure" and a study of plasma exchange. — Ed.

BIOLOGY

Western scientists and students recently completed a seven-year study of the biological community of the entire Alaskan Arctic coast. Most of the work in the project was limited to July and August, because the freeze-up begins in September.

This project, a \$1.3 million contract with the National Oceanographic and Atmospheric Administration (NOAA), provided NOAA with information it needed to prepare an environmental impact statement for the oil-rich Alaskan north slope before leasing drilling rights.

Under the direction of biologist A. Carter Broad, the teams worked along the frigid shoreline stretching north from the Bering Strait along the Chukchi and Beaufort Seas making a four-stage environmental inventory.

Broad, acting director of the Sundquist Marine Center at Shannon Point in Anacortes, commented on the Arctic research by saying, "It was not only science, it was adventure."

The first stage of the study was a beach survey done by flying a small plane over the Arctic beach and recording a description of it, backed up by the ground crews' observations.

Second, a sampling of the bottom community in shallow water was done from a variety of crafts. A piece of the bottom one-tenth of a square meter was sliced out with a clam-shell-like grab and screened. Everything sifted out of the silt was sent to the lab in the Environmental Studies Center, where students picked out, counted, weighed and classified the organisms. Broad said 50 to 60 students worked on the project, many in the lab at Western.

Another Western biologist, David Schneider, working at the Naval Arctic Research Lab in Barrow, did the third part of the project. He studied how the live organisms adjust to their environment, which is iced over and dark nine months of the year. Schneider did preliminary research on the possible effects of crude oil on the organisms.

The fourth part of the study involved underwater exploration of the Boulder Patch, a mysterious pile of granite rocks 300 miles north of the Arctic Circle, blooming with sea life unknown anywhere else in the Arctic seas.

Kenneth Dunton, previously a Western research associate, and his team made dives year around, through the six-foot-thick winter ice to further study this ecosystem.

— Donna Rieper



Biologist A. Carter Broad in his laboratory after directing a seven-year study of the Arctic shoreline.

PHYSICS

Not all research is done with test tubes or in small offices behind stacks of books and paper. William Dittrich of Western's physics department, for example, raises \$80,000 a year from local businesses and industries to support a talking gasoline pump.

The pump, along with other colorful gadgetry and a teacher-demonstrator are part of "Energy Adventure," a program developed by Oak Ridge Associated Universities (ORAU) to improve public understanding of energy issues.

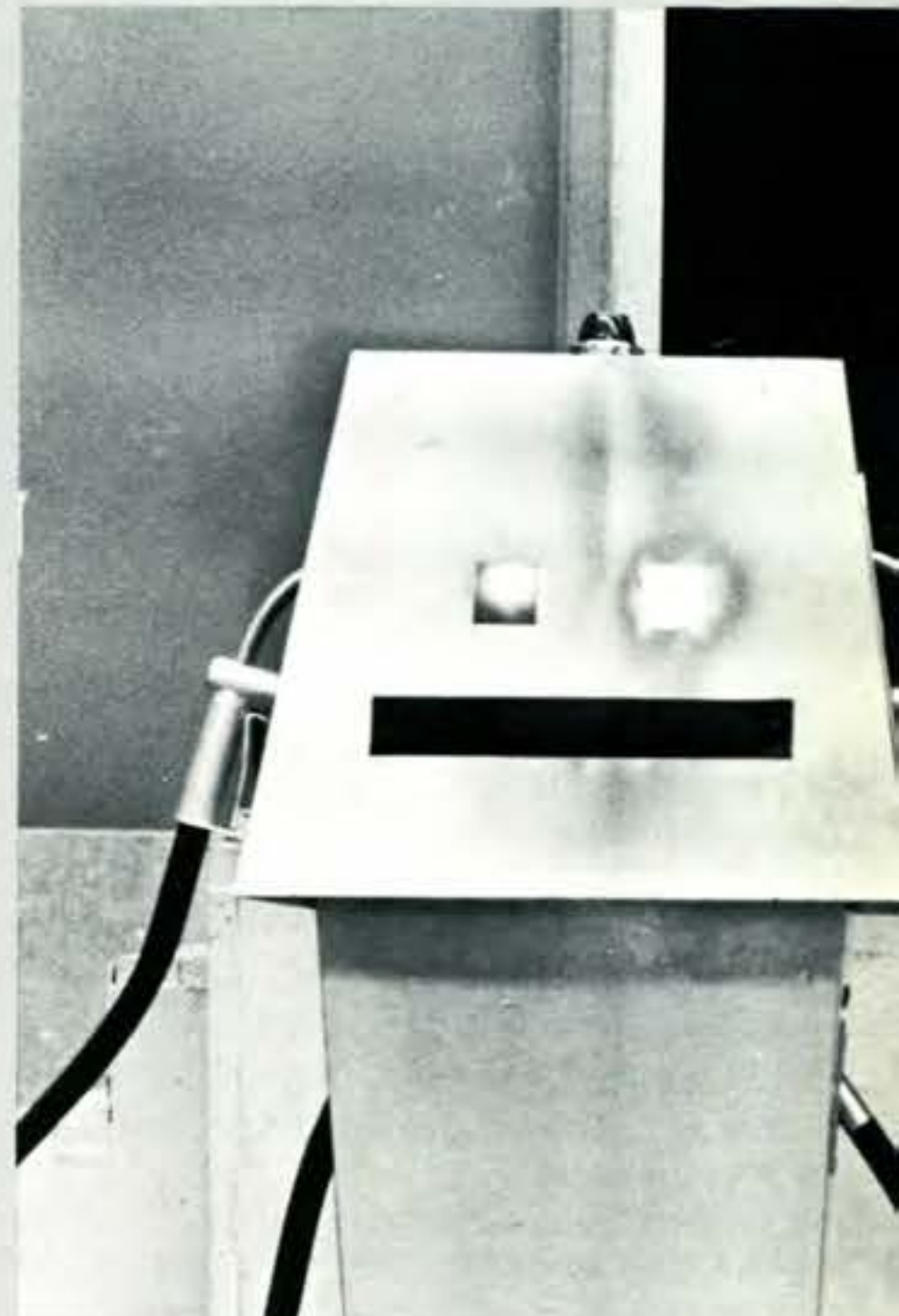
It's a lively, kind of jazzy thing, pulling people out of the audience to participate," Dittrich said.

"Energy Adventure" is touring schools and civic groups in Washington, Oregon, Idaho and Montana.

Dittrich's interest in educational programs from the non-profit ORAU began when the 1977 drought threatened the Northwest's power supply.

By approaching local agencies, he raised the money for a demonstrator, to be trained in Tennessee, and to lease the van and equipment for a tour of the Northwest. Results of the first year's performances were gratifying.

"They've all been overwhelmingly positively received. There's tremendous



Demonstrator Kevin Mart and his partner petroleum products in the "Energy Adventure."

Research Reports

need for this kind of a program, Dittrich said.

As many as 30 local and regional organizations supported previous tours, including the Washington Public Power Supply System. "Energy Adventure" is sponsored by Chevron but Dittrich stresses the program presentation is non-biased.

"We're not representing a company or product. We're presenting fundamental issues. Our function as an educational institution is to show both sides. We've worked hard at maintaining credibility," he said.

"I think it's made a difference. Everywhere we go we talk to teachers and provide the latest materials. Our sponsors also have handouts available. We just make the contact for them."

Dittrich said about 30 percent of the emphasis is on conservation of energy, and he'd like to see if it has made a difference, such as encouraging people to turn off lights more often. But the major goal is changing attitudes, which is difficult to measure.

"This isn't research in the usual meaning, but it's a job that needs doing," he said.

And he plans to see the funds are there to get the job done.

"Energy Adventure" is scheduled to tour Whatcom and Skagit counties this month.

— Barbara Scabarozi



photo courtesy of John Sumas

CHEMISTRY

There's no known cure for certain types of cancer, lupus or multiple sclerosis, although an expensive procedure known as plasmapheresis, or plasma exchange, may be a viable treatment.

But the system discards a patient's plasma, with all its valuable proteins, and replaces it with a substitute, because in blood disorders and neuromuscular diseases, a patient's autoimmune system attacks itself. Researchers are trying to remove these harmful antibodies while saving the plasma.

"The hope for the future would be that the cells and treated plasma go back to the patient for better compatibility at less cost than artificial or donated plasma," said Salvatore Russo of Western's chemistry department.

Russo is studying how proteins behave and how they are separated. His research, funded through Cobe Labs of Lakewood, Colo., and Western's Bureau of Faculty Research, aims to selectively remove the abnormal ingredients and leave the rest.

"It's kind of miraculous that built into humans there's the ability to tell the difference between foreign substances and one's own. It's a very delicate kind of recognition," Russo said.

The research is progressing slowly, he

said, and the thing that takes the most time is finding the best conditions for the separation.

The bulk of the protein in our blood is albumin. Since albumin and antibodies have a different charge, Russo said the ion exchange technique he applies takes advantage of their natural charge.

Russo and a graduate student, Erin Wahl, work with radial immunodiffusion, a very sensitive test to find antibodies. A small glass plate contains antiserum to antibodies. By dropping plasma, donated by a local blood bank, into the wells on the test plate, the scientists measure the spread of the drop to tell the concentration of antibodies.

Russo visited Cobe Labs two years ago to learn about their research and saw a chart listing more than 20 ways being tested to separate plasma. Cobe Labs, which makes blood dialysis and open-heart surgery equipment as well as plasma-exchange systems, has supported Russo with nearly \$5,000 for supplies and salaries for graduate students involved in this project.

"The kind of treatment we're looking at is not a cure. We're looking at ways to help the individual that are temporary," Russo said.

But progress is being made, Russo said, and he's encouraged that the pieces of the protein puzzle will someday come together.

— Barbara Scabarozi



Casey Madison

Droplets of plasma spread in a test plate, helping scientists find ways to separate harmful ingredients from the plasma.

king gas pump, explain the uses of "Energy Adventure" program.



Members of Blackberry Cooperative Press: (Left to right) Mark Flanders, Doug Smith, Randy Smithey, Janet Pheifer and



h Brantsfield.

Casey Madison

Blackberry Press Ripens

Fruitful cooperative prepares for the future

by Scott Fisk

In the front office of the brick York Street building, Bob Marley on the stereo competes with the drumming of the typical Bellingham rainy day outside. The five owner-operators of Blackberry Cooperative Press sit comfortably drinking coffee, surrounded by walls covered with posters of community events, rock groups and political rallies — products of their work.

Brought together by a filtering through various activist organizations, the five have established the only cooperative press in Whatcom County.

The seemingly tight-knit group discusses its new change of course — in the fifth year of Blackberry's existence — from a struggling progressive information press of volunteer labor to an operation pursuing financial success.

Perched on a stool, Sarah Brantsfield, at 25, the oldest member of the collective, explains that Blackberry started in 1978 as a political collective that used the press as a tool for political change. "But it got to the point where we couldn't survive without having a viable business to give ourselves financial support. We must have a business where we can sustain ourselves and still support groups in the community."

In its infancy, Blackberry was no more than a table-top duplicator on the back porch of a house on Bellingham's south side. Cut-rate or free printing was available to progressive groups that had a lot to say but not much money with which to say it. The press's survival was always an uncertainty. The members of the collective all had jobs elsewhere,

(always barely at or below subsistence, they say) and ran the press in their spare time without pay.

Sitting behind a desk, feet propped up executive-style, 23-year-old Janet Pheifer recalls her idealism, which is now being remolded.

"About a year and a half ago, I was incredibly adamant about not paying ourselves, but right now that is my main focus. I want money," she said, continuing on a philosophical note. "Trying to integrate that into reasoning with your own ideals and politics about capitalism and business ... well, there's a lot of questioning involved in terms of societal structure and how we fit in. You have to make a certain amount of compromise, to survive in society."

From business cards to books, the three presses in the back room churn out a variety of print services for a growing commercially oriented clientele. They have started a "reach out" advertising effort to attract business and open their doors to the community.

"The economic climate has forced us into what we're doing now," 24-year-old Doug Smith said, pointing out that there are no jobs and "all of us are really poor. It's forced us to realize the potential of Blackberry. Our political perspectives are still there," (he pauses for a moment to rub his beard) "only they must melt in with the business aspects. Originally, the political perspectives precluded the possibility of a business atmosphere. We were always very anti-business."

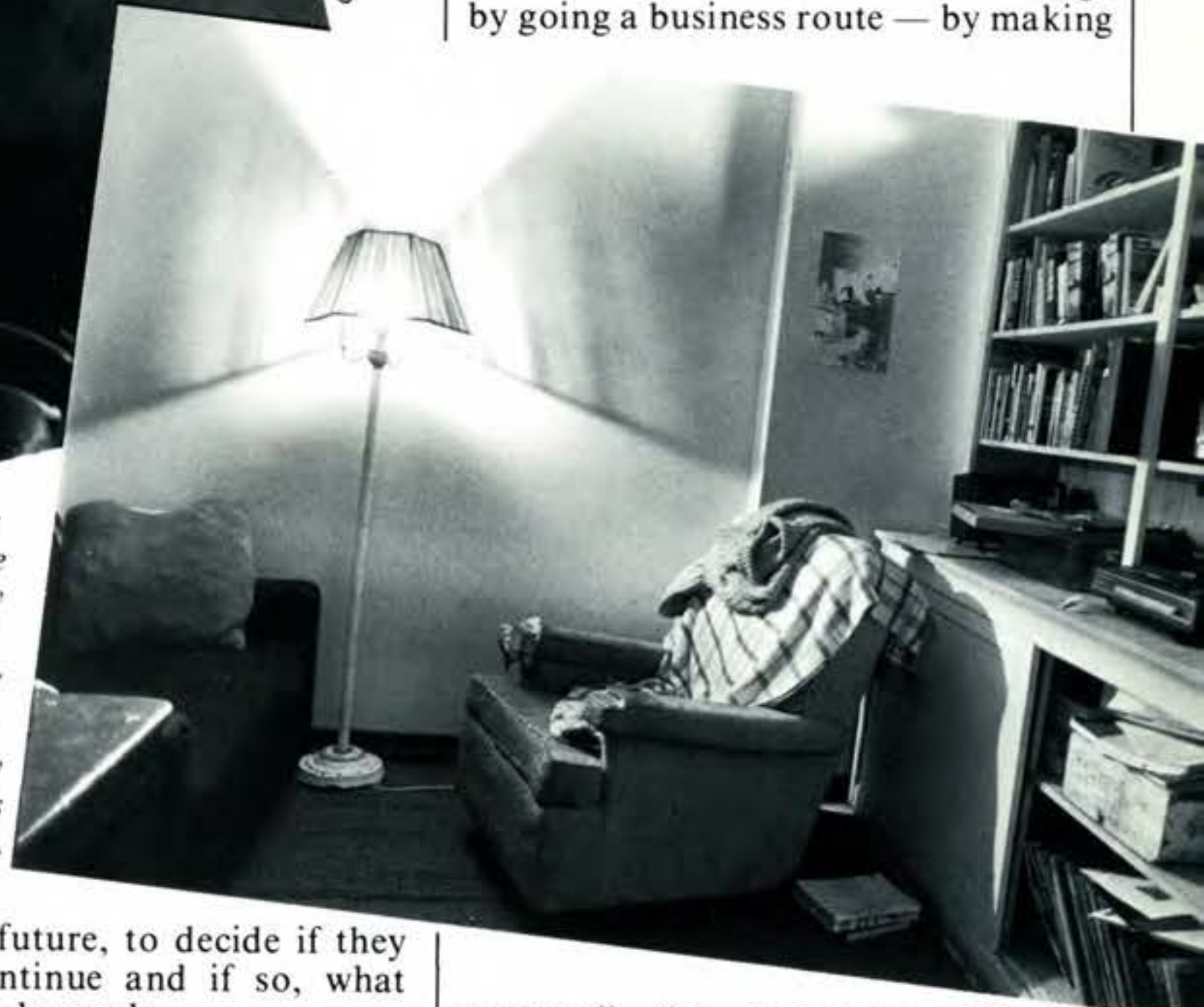
After moving in August of 1980 to the sixth floor of the now-defunct Bay



Casey Madison

right:
Bringing their home
to work; members of Blackberry
have fashioned their break room
with old furniture, a library and stereo.

above:
Piece by piece, the presses have been put together by
hand. Doug Smith is shown operating the Harris
press, a relic from the 1940s.



Street Van's B&B furniture store, Blackberry expanded its operation but was still far from stable. Rent was tough to pay on time, as were other bills, and the location was not accessible enough for business to bloom. Ironically, however, it was too much work that nearly made Blackberry shut down the presses for good.

The move to the present location at 205 York St. in June of 1982 came after the collective virtually closed shop for two months after completing its first major project, "The People's Yellow Pages." The job took two weeks more than expected and wore out the overworked members, who at the time, still made their livelihood elsewhere.

The vacation allowed them time to

reassess their future, to decide if they wanted to continue and if so, what changes had to be made.

After deciding to give it another go, they moved to a location with easy access for business, one more open to the public. With the move came a larger press, donated by Craig Hanks of Sunshine Printing of Bellingham, who had bought a better press. They decided to turn the volunteer operation into a full-time, paying job.

With half of its business commercial, Blackberry finally pulled out of the red in October after a three-month struggle to repay loans they had needed to cover moving costs and bills.

A 23-year-old Bellingham native, Mark Flanders, points to a chart on the

wall, "This is it right here, why we're still going." The line representing October's business goes off one chart and onto another tacked above it.

"We did well enough that we were able to pay our rent on time, pay all the bills, buy supplies and still have money left over to start the month with," Pheifer said as if she still couldn't quite believe it. "That's never happened before."

The collective joined the Service Employees International Union last September, which helped them contract more business. The November elections also contributed to the financial breakthrough, although they agreed it was their own advertising effort in the community that made the significant difference.

The idea of offering free press to groups that simply can't afford it and reduced rates for non-profit organizations and senior citizens still exists.

"The ideals and politics stemming from the past are getting reformulated to where we're realizing that we can do a whole lot more in terms of social change by going a business route — by making

money," the outspoken Pheifer asserted. "Right now, financial stability is our main goal."

The business stability that prevails now, they attribute to the long-term equal-partner relationship, where no one makes the decisions for the rest. Weekly meetings take place to make all the decisions by group consent.

Besides the equal-say relationship, the five entrepreneurs have shared the slow process of acquiring the skills necessary for producing quality printing.

"It's taken trial and error and asking a lot of questions," Pheifer said. "Fairhaven Communication has been the

biggest help." Especially, she explains, when Blackberry didn't have darkroom facilities and were allowed free access to Fairhaven Communication's. "If it hadn't been for them we wouldn't be alive right now."

None of them entered the collective with any previous technical skills. Experience has taught them everything. A look through the Blackberry archives — samples of printing from the beginning — shows the struggle for improvement over the years. The late 1970s underground appearance has evolved into a variety of precision printing with quality guaranteed. This despite the fact that most of the machines are late 1940s vintage.

"If something flies off the press and you don't know how the press works, you're not going to know where to put the part back," Pheifer said with the certainty of personal experience in her voice. The difficulty of finding parts to replace broken ones also is a problem. The three presses are kept in working order by all the workers.

A walk into the shop area with the youngest of the five, 21-year-old Randy Smithey, reveals the pinnacle of their self-reliant ingenuity — the plate burner. Normally the device, used to burn images onto a print plate costs at least \$300 used and more than \$1,000 new.

"But it cost us only about 10 bucks," the constantly grinning Smithey said. He explains how, with the motor from Janet's father's milking machine, a vacuum hose and some practicality, presto — they have a plate burner.

A few steps away, Smithey points to the small table-top printer sitting unused beneath a workbench. "That's the one we started it all with on the back porch in '78; it was given to us by the owners of Fairhaven Communications."



Casey Madison

"It is such an incredible joy seeing the finished product, knowing that I saw it through from beginning to end," Janet Pheifer says, making a careful last second adjustment of the press.

And the hand-me-down process continues. When a grain boat leaves Vancouver, B.C., for Nicaragua, the small press will be aboard, a donation from Blackberry.

"We're not sure who'll get it," Smithey and Flanders concur, hoping that the 15-year-old printer will be used for educational or similar purposes beneficial to the people.

Back in the front office is a row of light tables used for laying out and designing ads. They consider these "community access facilities." The only cost to use them is a donation for material. "Basically it's a free service," Smithey said.

As a business or "project," as Smith calls it, Blackberry's growth compares to the machines — patched together by hand, in constant need of repair and still running by the efforts of a few dedicated people.

Plans for further improvements include installing a book-binding facility and newer presses, though they can't imagine right now where they'll get the money for either.

The possible personal conflicts of integrating the life-sustaining profit motives with their political perspectives are resolved by keeping the method of operation valued above the financial source.

"For me, how we make our money is a secondary value," Smith said. "I'm working in a collective, and I'm integrating a democratic value into my day-to-day life. That's what it means to me. It doesn't matter what's being run on the

What will tomorrow bring? Janet Pheifer and Randy Smithey are confident the role cooperatives will play in the future economy will be an important one.

press, it's how we organize our workplace."

Brantsfield echoed Smith with a solemn tone: "I hope that we can be an example and share with people what we've been doing. But I'm fearful of the economic climate in the country. I think we had the luxury of having the ideology, the concepts brought before us. There's a lot of people who don't have that advantage now. We have to be active in supporting other groups and encouraging other people."

"That's why it's important that we survive," Smith emphasized.

The five said they are confident of the future and other collectives in today's economic times.

"In terms of economics, aside from politics, it will grow more," Pheifer said. "Because, economically, it's more feasible to have a worker-controlled, worker-operated business than it is to have your typical hierarchy."

The fact that Blackberry has risen as a successful operation without a large amount of funding or initial investment is testimony to her statement.

Smith related his own experience with Blackberry to what is necessary for a collective to be organized.

"The biggest obstacle for people to do this is just having the idea and recognizing it as a valid one — that you can get a project going and have a democratic work place."

Blackberry Press, for the time being, is in a spotlight of success with promise for the future lying in the shadows of hope.

"There's an economic threat, but in order to sustain ourselves and keep going, there has to be hope," Pheifer observes. "If there wasn't that hope, we would have given up long ago." **K**



Casey Madison

From Assembly Line to Center Stage

Story and photos by Albert Fields

"... I knew there was a power inside me. I could sense it, had felt it all these years .. a power to connect with the force of life around me. If I could develop it, tease it out ... I decided I needed that, more than anything."

— Wilhemina from the play,
"Drax"

Frieda Hoops was between worlds. She was resting. All day long she has worked at Bellingham Frozen Foods. That night she was to be an actress. Playing the strong but tempted

Wilhemina, she would be the only person powerful enough to resist and conquer the evil Drax.

It was early November and Bellingham's Gallery Theater production of "Drax" was in its final days.

At her home in south Bellingham, Hoops sat curled up on a bedspread-covered couch in a living room cluttered with unmatched furniture in various stages of decline.

She was relaxing, letting the day's work roll off her. Soon a hot shower would start the transition — from worker to actress, from Frieda to Wilhemina.

It was only six months ago that she decided to start acting again. Since then, Hoops has played lead characters in three Gallery Theater productions.

Her performances in two of those plays, the energetic *"A Couple of White Chicks Sitting Around Talking"* and the lampooning *"Play Strindberg,"* earned her glowing reviews.

And she's done it while working an average of 50 hours a week at the cannery.

The 25-year-old Hoops has been involved in theater most of her life.

The seeds were planted when she was about five years old. One of six children, Hoops found she got a lot of attention for her goof-off ways.

"I was very entertaining, always doing skits and things. All my dad's friends would come over and tease me. I'd always get them laughing and they'd say, 'There you go again, Marilyn Monroe, at it again.'"

"Marilyn was at her prime then. I figured that she must have been very

happy with all the attention she got. I idolized her, even after her death less than a year later."

Theater seemed the natural place for the blond-haired child who dreamed of stardom.

In her early days of acting, the excitement theater offered Hoops centered around the attention she received. Much of that attention came from being attractive.

Hoops has a different view of those days now.

"A lot of it was ego gratification. Theater really offers that a lot, getting acknowledgement. I had this image that I would be this beautiful sex symbol. Girls are so conditioned to be sex symbols, anyway. I wanted to be a movie star. I related it all to Marilyn Monroe.

"That really left me when I moved to Bellingham to go to Western."

An acting instructor there changed

continued on page 20



Frieda Hoops

her life.

"I think fate led me to this teacher, Greg Ross. He was just a visiting instructor. He had a whole different concept of what theater was. His concept was totally away from the ego, more on impulses and motion and the energy exchanges between the actors."

"One thing he said was, and I always knew he was talking to me," Hoops smiles as she mimics Ross's voice, "let yourself be ugly. You can be ugly on stage, let yourself be anything."

"I did and I never had so much fun in my life," she added with a grin.

It was liberation for Hoops. Theater became a teacher for her, a safe place to let out what moved her as a person.

Hoops said Ross caused a controversy in Western's theater department that year. Calling it "dead theater," he labeled his own brand "live theater."

But Ross was only at Western for a year. Hoops continued taking classes, but it was "live theater" she wanted. She dropped out.

"I just didn't feel driven. Part of it may have been my attitude. I felt unwilling to compromise. If theater wasn't going to be a meaningful experience, then I didn't want to do it."



Hoops had to buck the system to become a forklift driver at the cannery where there are only two women drivers.

Leaving school signaled a period of withdrawal and change for Hoops. The energy she had used for performing was channeled back into learning about herself.

"I gained a lot of weight; I think I was going through something about physical beauty. I gained 30 pounds. I had to change my focus. I didn't feel good about myself. Maybe I was allowing myself to be ugly."

She found a steady job with Bellingham Frozen Foods. Starting out on the vegetable line like most women do, she stood over the conveyor belts as she sorted or cut the endless streams of vegetables — miles of peas and corn and carrots.

There Hoops has had to deal with her aversion to monotony and routine. She has been equal to the challenge.

Last year was Hoops' fourth year with the cannery. Working the six-month season, from June to December each year, Hoops has found discipline and profit to be the reward for sticking it out.

During the cannery's off-season last spring, Hoops decided to return to school. It was in the open atmosphere of Fairhaven College that her love for theater was rekindled.

This time she had a new viewpoint. The dream of being a Marilyn Monroe was gone. She was able to step back and take a look at something that has affected her personally all her life, the portrayal of women.

During an independent study of women playwrights, she began to realize theater had become unsatisfying for her largely because of the type of roles written for women.

"The question is whether the movies portray life as it really is, or life as the boys behind the scripts would like it to be.

"I don't see how a man could write good roles for women. I have ended up being typecast as the beautiful heroine. That kind of role just feeds male fantasies. That's not what I want to do."

Hoops began to see the contrast between the life she desired to live and was living, and the roles she once had tried to live out — roles written by and for men.

A new view of women and a new view of herself has affected her life on many levels.

At the cannery, she has refused to remain stuck in the jobs traditionally held by women. Each year she has moved into more demanding jobs, jobs

usually filled by men. Last season she began driving a forklift, a rarity for women at Bellingham Frozen Foods.

Being involved in the theater has been a release for Hoops this season. Despite the demands on her time, Hoops said she believes acting has been a balance for the pressures of her job.

"The cannery can be a very oppressive job. It's noisy, the work is repetitive and monotonous. Because people feel so powerless there, they tend to use their seniority to create a false sense of power.

"The theater is a safe place for me, it's a rejuvenator. I know I can come from the work world to the theater world and be accepted. I can be who I am."

Once again, theater has become "live" for Hoops. Her new awareness of the roles she has played has given her new energy. The new plays she has been in have not had ideal roles for women, she said. The playwrights still have been men. They have been better roles. But more importantly, she said, the role she has chosen for herself has changed.

"Theater can be an alive experience. It can bring me greater awareness and it can be a gift to the audience if it makes them more aware as human beings." **K**



Frieda Hoops believes acting is a state of mind.

Textbook Testimony

Accumulating
academic
antiques

by Jack S. Broussard

The state financial crisis that threatens more budget cuts and an increase in tuition also threatens the concept of affordable higher education for everyone.

In the two years I've spent at Western, I've seen tuition costs skyrocket from \$206 per quarter for a full credit load to \$314. Moreover, I guesstimate I've spent \$3,000 on tuition alone during the past years, not to mention books and other costs. The million dollar question is: am I getting my money's worth?

I sat down at my bookshelf and looked at my collection of college textbooks.

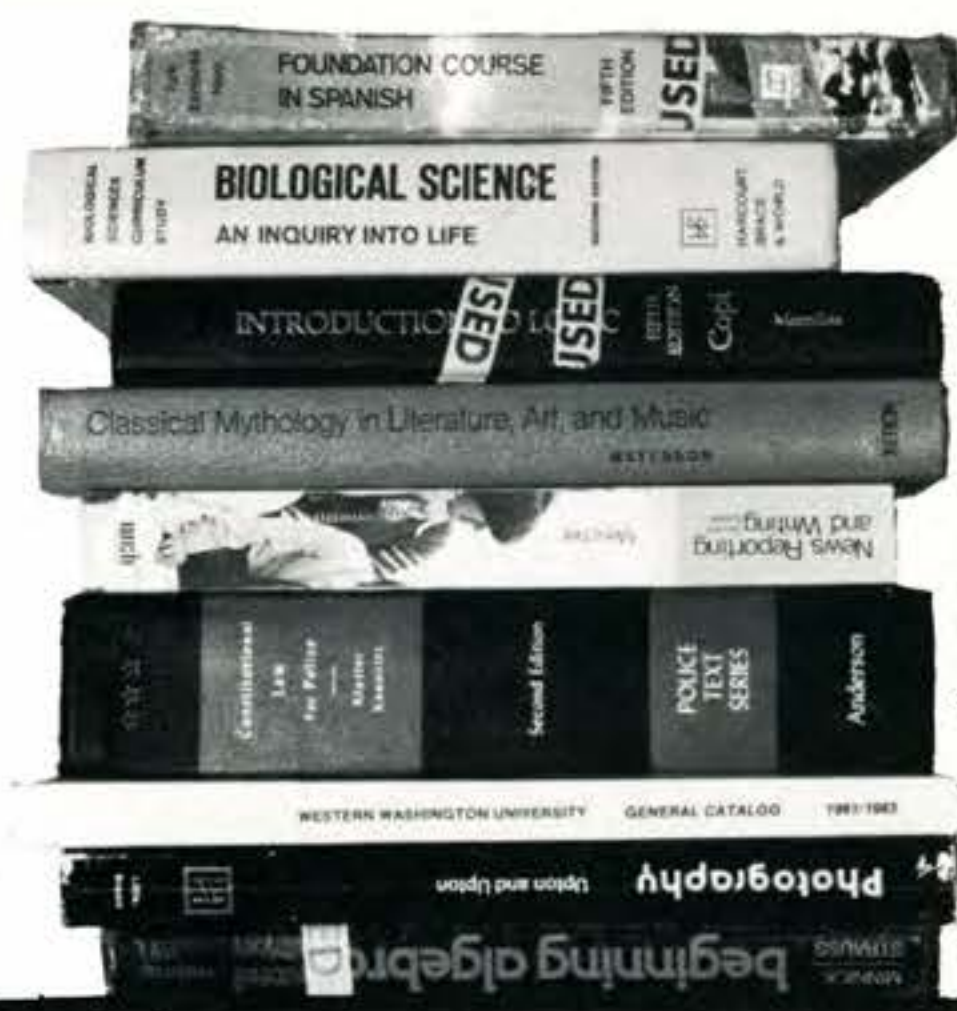
The book, "Constitutional Law for Police," caught my eye. It's supposed to teach people everything they wanted to know about the law and were afraid they'd find out the hard way. What the book publishers don't say is that the state Legislature keeps changing the law. That means a book like this becomes obsolete in about 10 years.

My copy was published in 1971.

When I was over at the Public Safety building interviewing Sgt. Walt Springer, I wanted to impress him with how much I knew about the law. It turned out *everything* I knew about the law was obsolete. The Legislature had even changed the legal definition of burglary.

Boy, am I in a lot of trouble. I had to sneak out the back door and dodge cops all the way back to the journalism department.

Another book, "Decouverte Et Creation," teaches everything you always wanted to know about speaking French except what to do when nobody you're talking to knows what you're talking about. The whole book is written in French. I never figured out how I was supposed to learn to speak the language if I can't even read the textbook. I guess I'm supposed to look at the pictures and make it up as I go along.



Albert Fields

The book, "Photography," has a collection of pictures taken by professionals. It attempts to demonstrate how the novice can take professional pictures, too. Many pages illustrate the working of a 35mm camera and how to adjust it properly.

It hasn't done much for me. All of my pictures still look like Bozo the Clown went berserk with a Nikon camera.

Further down the shelf, "Introduction to Logic," attempts to make a person smart. I don't know about that.

I still keep going down to McDonald's expecting them to give me a break today, but they still keep selling me a lousy sandwich for \$1.65. I never figured out how selling me a lousy sandwich for \$1.65 was giving me a break today.

Next to an old 1953 dictionary, "Beginning Algebra," offers a study in slow torture. It's supposed to make a person some kind of a mathematical wizard. You know, the kind of a person who's smart enough to balance his own bank account.

Beginners start to learn algebra by solving problems with the letters *A* and *B* mixed with numbers that are two digits or less. More advanced students move into the letters *X*, *Y* and *Z* mixed with numbers that are three digits or less. The most advanced students get all five letters mixed with positive and negative numbers that range from zero to one million.

Those that can survive four years of that kind of slow torture get a bachelor of science degree, (called a BS degree, of course) in mathematics. Those who can't survive the four years end up with a lifelong affliction that makes them hysterical at the mere sight of alphabet soup.

Now, I confess, I haven't read all of my textbooks. I just display them in my bookshelf so everyone will know what \$3,000 worth of tuition has done for me.

K



Dave Jack

above:
Researchers track body measurements for changes in development and structure.

upper right:
Helen McDowell runs "to the max" in a test of aerobic fitness.

lower right:
Bob Moffatt, head of Western's exercise physiology lab, tests Sehome gymnast Brenda Bajema for her percentage of body fat.



Dave Jack



Jack

Working Up a Sweat

Coach studies effects of training program

by Kathie Jackson Hebbeln

Her face already flushed, sweat breaks across her brow as tendrils from her ponytail cling damply to her cheek. For 40 seconds the center of her universe is the handlebars of the exercise bicycle she is pedaling as hard as she can as fast as she can.

In 40 seconds she will go from relaxation to total exhaustion.

"All out, Brenda, push, push, you're strong, atta girl, go, hard, go, go!"

Graduate students at Western's exercise physiology laboratory urge her on, their exhortations rising as her speed uncontrollably begins to slow.

"Go, go, fast, keep it going, come on, Brenda, push, push."

She pushes.

Finally, her 40 seconds are over, she stumbles from the bike to pace, slowly, grasping her sides, until she recovers her breath.

"Wow," she whispers.

Brenda Bajema, 17, is one of the top high school gymnasts in the state. She and 10 of her fellow gymnasts, members of Sehome High School's award-winning female gymnastic team, are breaking new ground at Western as part of a pioneering study of the effects of intensive training programs on high school female gymnasts.

"The bike test looks worse than it is," says Bob Moffatt, director of the exercise physiology lab. "It gives a pretty good idea of what kind of anaerobic capability the girls have. And since their sport relies heavily on anaerobic metabolism, it's important to assess that capability."

Moffatt began the study last year at the request of Sehome gymnastic coach Nola Ayres. In the process of taking her team to the state gymnastic finals for the 10th year straight, Ayres wanted a basic profile of the girls' fitness levels and percentages of body fat.

"There's just so little information about female high school athletes, particularly female high school gymnasts," Moffatt says. "Partly, that's because females have just been getting heavily involved in athletics in the last few years."

Some surprising preliminary findings have led Moffatt and his physiology team to extend the study to a long-term analysis. They will follow the girls throughout their high school gymnastic careers, tracking development, fitness, body fat, nutrition and menstrual patterns.

The girls average only 13 percent body fat, far less than Moffatt expected, less than any results he's ever heard of.

"I really didn't know what to expect when we started," Moffatt says. "Typically, female athletes are pretty lean. I know some studies have shown college gymnasts to average about 15 to 18 percent body fat."

"You would expect average high school females to be about 23 to 24 percent body fat. These girls are about the same height and weight as non-athletic girls in the school. They just have 10 percent less fat."

No one knows, yet, the effect of long-term reduced body fat on girls this age, he says.

"Although it is common for female gymnasts to be lean, we know it's not natural, not normal to have only 13 percent fat."

"We already know that female gymnasts typically reach menarche two years later than average. We don't know the full effects of body fat on menstruation. In surveying the girls, all have irregular periods. Some menstruate only in the off-season and some not at all."

"It may have to do with the stress of training; it may be the level of body fat. We just don't know yet. Some say there is a level of critical body fat and to go below that affects things like menstruation. What this may mean in the long-run to conception and child-bearing is the question."

Moffatt plans to use a more in-depth dietary analysis this year to encourage the girls to use improved nutrition to offset the stresses of training.

"Gymnastics doesn't expend a lot of energy like, for instance, running does. The girls probably need about 2,100 calories a day, then, say, another 300 to

400 a day for training. Probably they need 2,400 to 2,500 calories a day.

"Our dietary analyses so far have shown the girls to be consuming about 2,000 calories ... and 40 percent of those are 'hollow calories,' junk food. They're teenagers, consuming typical teenage diets. Instead of an apple or an orange for a snack, they're eating Ho-Ho's and soda pop and chocolate chip cookies."

"What's even more surprising, they don't supplement their diets. Most athletes take many more vitamins than their body can possibly use."

The team comes to Western once a season to be tested. The treadmill test, the girls say, is the hardest. They run a standard treadmill stress test, but they run "to the max" — to exhaustion. The test measures oxygen usage, lung capacity and maximum aerobic capability.

In most ways, the girls are typical high school students. Leaner, maybe, and stronger, but in the middle of Western's exercise lab, filled with thousands of dollars of exercise equipment, they moan about gaining weight as they compare performances.

"That's what's so funny," Moffatt laughs with a touch of bewilderment. "They still all think of themselves as fat. They're worried their leotard will show any additional pound."

Brenda, recovering quickly from the testing, said she thinks the training and the testing is worth the price. With her sights set on a state ranking, she plans to use her gymnastic skills to catapult her to a gymnastic scholarship. Finished with her testing, she gets ready to head back to Sehome, to a full afternoon of practice in a gym crowded with bars and beams and mats.

"Does there come a point when you sacrifice health for performance?" Moffatt asks. "We don't know. Who is to say 15 to 20 years from now that whatever happens to these girls' health is not because of the effects of intensive training. Who is to say, if they get some disease .. and the thing is, no one will ever know, ever make the connection between that and the training. **K**"

Who's Afraid of Who?

by Kirk Ericson



The Who: the band people die to see.

That thought keeps popping into my head as I drive south on I-5. On my left, there's a steady stream of blue license plates passing me at 65 mph and on my right there seems to be a steady stream of flashing blue lights.

On the radio, a man is talking about the security measures that are being taken at the Kingdome: cops, nurses, doctors, evacuation centers, cots ... the list seems to go on forever.

I feel like I'm driving headlong into a war zone.

Hank's not helping matters either. He's flipping every beer bottle cap he can find in the car out the window — I tell him to stop but he doesn't. Cops know how hard it is to control people when they're having fun.

But my paranoia is unjustified; we arrive in Seattle safely, just in time to spend an hour in line. We're part of a mass of people hemmed in on both sides by Cyclone fences. We're being funneled. The line moves slowly, people shuffle their feet forward every few seconds, they look down and don't speak much.

As we get closer to the last barricade, no one is speaking. Security lets about 100 people through at a time and we're funneled once again toward the ticket-takers. We stand in front of the barricade and wait, silently, the moon hanging

perilously over the top of the Kingdome. A train comes by and people throw their bottles at it and get agitated for a moment. But the train passes and people slump back into their torpor.

To my right I see a guy vomit on his date's coat and I watch him as he struggles with the knowledge that he's going to have to figure out some way to tell this woman he has expelled heavily on her suede deluxe coat. After two minutes of looking very lost and very plaintive, he somehow summons his obligation to duty and tells her.

"You what?!!" she screams.

He's thus forced to repeat himself and he mumbles quietly again.

Luckily for him, security lets us in soon after that. The ticket-takers take our tickets and the body-friskers frisk our bodies. Very clean, very efficient.

We're inside, sitting on the one hundred level behind the stage. The Clash is playing; Joe Strummer is bouncing his plaintive cackle off every inch of the Kingdome. Very haunting ...

I notice three very large males standing above me. What could they possibly want with me? Could I outrun them?

"Excuse me," the biggest one says, "Do you mind if we get through?"



ILLUSTRATION BY MASARU FUJIMOTO

Ho! He wants to pass. That's all ...
"Paranoia will destroy ya."

At a little after 9:15, the Who comes on stage. I see the immense crowd swell forward and something primitive compels me to leave my safe perch and move down into the seething, sweltering mass in front of the stage.

This is where the concert is, I think to myself, as I worm and push and shove my way through this tangled mess. I'm able to penetrate enough so that I can feel the claustrophobic atmosphere of the crowd. But I don't go in too far — I remember that Who crowds have killed before — rapid, indiscriminate killings that leave no accused. So I wade in just a little way, to get the feeling . . .

It's very hot, very cramped and very smelly. The image of Pete Townshend running about on stage juxtaposed to the condition of those watching him is almost too much for my brain, and I look behind me to make sure I have an escape route. As long as I have a route, my mind will treat me well.

Even though I'm being pushed and shoved around, I'm still only on the very edge of the crowd. But I know I don't want to go in any farther because I see people staggering by me who must have come from the inside, the place at the relative

center of the crowd where you have to have a lot of guts, a lot of faith and a lot of perseverance.

But I get to see the people who don't have those things. Mostly they're sad, beautiful little girls with their make-up hopelessly smeared, clothes twisted and wet, wandering around looking for that one person they know, but have lost.

The Who breaks into *"I Can See for Miles,"* and the crowd pushes me forward. I'm carried away for a moment and I watch the Who, totally oblivious to where I am. When the song stops I turn around and see that my escape route has been sealed tight.

Now I'm out for me. I push and prod my way through a thousand people and it seems I have made no progress. I start thinking of being underwater, straining to get to the top so I can feel my empty lungs fill with precious air. I'm thinking seriously of implementing a full alert panic, but I catch myself as I notice the crowd is parting more easily. I make it to safety.

I return to my friends, who are still sitting behind the stage. They ask me how it was and I say, with all sincerity:

"Great."

Then I make a broad, sweeping gesture with my right hand and say, "That's where the concert is." **K**

Struggle Against Loneliness

— Story and photos by Casey Madison

Claude Ruble is lonely.

He stands in a gutted garage on Holly Street and waves to passing cars.

Every Tuesday through Friday morning he is there, sometimes alone or with his friend, Bill. By 8 a.m. he is in position, wearing his faded Sears overalls and a smile. By ten o'clock the 74-year-old man boards the van, which is half full of other seniors, and heads to the LIFT.

Project LIFT is a program for seniors who are isolated in society. The aim of the program is to socially and mentally stimulate the 25 persons who participate in the games and entertainment.

Dianna Stansfield, a nurse at the project said, "Loneliness is a very, very real problem for the elderly."

Claude's participation in the program occupies only five hours a day, four days a week. The rest of the days he spends in front of the television.

Claude cannot read or write. Television serves as his only companion while he is home.

But at his morning station in the garage, Claude waves at everyone passing by, perhaps to ease his loneliness. He has been waving for three years, and says he continues because he likes the return waves he gets. **K**





